

Taxonomic Notes on Nine Species of the Tribe Phycitini (Lepidoptera, Pyralidae, Phycitinae) from Korea (I)

Ha-Yong CHOI, Mun-Ki PAEK¹⁾ and Yang-Seop BAE¹⁾

Center for Insect Systematics, Kangwon National University, Chunchon 200-701, Korea

¹⁾Department of Biology, College of Natural Sciences, University of Inchon,
Inchon 402-749, Korea

Abstract Nine species of Phycitini, *Spatulipalpia albistrialis* Hampson, *Sandrabatis crassiella* Ragonot, *Ceroprepes nigrolineatella* Shibuya, *Myelois cibrella* (Hübner), *Assara terebrella* (Zincken), *A. funerella* (Ragonot), *Nyctegretis achtinella katastropella* Roesler, *Pseudocadra cuprotaeniella* (Christoph), and *Euzophera batangensis* Caradja are reported for the first time from Korea, with illustrations of adults and genitalia of both sexes. Known host plants are listed.

Key words Lepidoptera, Pyralidae, Phycitinae, Phycitini, newly recorded, Korea

INTRODUCTION

Subfamily Phycitinae is one of the largest group of the family Pyralidae and is widely distributed throughout world, with approximately 5,000 described species belonging to about 600 genera (Shaffer, 1996). Larvae are mostly leaf roller and crumpler, often living in a tube of silk mixed with frass, within the folded leaf, and many of them are known as economic pests, e.g., *Dioryctria abietella*, *D. sylvestrella*, *Etiella zinckenella*, *Ectomyelois pyrivorella*, and *Plodia interpunctella*. The first record of Korean Phycitinae was made by Leech (1901), with three species, *Nephopteryx hostilis*, *N. semirubella*, and *Selagia argyrella*, and 38 species were added to the Korean fauna by Okamoto (1924), Shibuya (1927), Okamoto & Nagayama (1940), Park & Lee (1958), Park (1976, 1983), Shin (1980), Inoue (1982) and Byun, Park, Yamanaka, & Lee (1997). In the present review of the tribe phycitini, further nine species were newly recognized from Korea with brief redescription, and illustrations of male and female genitalia, i.e., *Spatulipalpia albistrialis* Hampson, *Sandrabatis crassiella* Ragonot, *Ceroprepes nigrolineatella* Shibuya, *Myelois cibrella* (Hübner), *Assara terebrella* (Zincken), *A. funerella* (Ragonot), *Nyctegretis achtinella katastropella* Roesler, *Pseudocadra cuprotaeniella* (Christoph), and *Euzophera batangensis* Caradja. Among them, four genera, *Spatulipalpia* Ragonot, *Sandrabatis* Ragonot, *Myelois* Hübner, and *Pseudocadra* Roesler are newly recognized from Korea.

Abbreviations for depositories of the material and provincial names are as follows: ASTI - Agricultural

Science and Technology Institute, Suwon; CIS- Center for Insect Systematics, Kangwon Natural University, Chuncheon; UIB- Department of Biology, University of Inchon, Inchon; GW- Gangwon; GG- Gyeonggi; CN- Chungnam; CB- Chungbug; JN- Jeonnam; JB- Jeonbug; GN- Gyeongnam; GB- Gyeongbug; CJ- Cheju.

***Spatulipalpia albistrialis* Hampson** 굵은수염알락명나방(신칭)

(Figs 1, 10, 18, 26)

Spatulipalpia albistrialis Hampson, 1912, J. Bombay Nat. Hist. Soc. 21: 1256, pl. G: 38; Inoue, 1954: 140; Inoue, 1982, 1: 399, 2: 252, pl. 48: 13; Hirashima, 1989: 968. TL: Myanmar, Sri Lanka.

Diagnosis. Wing expanse, 18–20mm. This species can be separated from the related species by the fuscous reddish ground color and the two whitish longitudinal lines on the forewing. The species seems to be a common species in Korea.

Male genitalia (Fig. 10). Uncus rather broad, shortly bifurcated, with pointed apex. Apical process of gnathos elongate, blunt. Transtilla broad, medially slightly pointed. Valva apically narrow, with waved saccular margin; costa with basally a few long hairs; clasper broad, blunt. Vinculum broad, moderate in size, about 0.8 times as long as valva in length. Aedeagus broad, as long as valva. Structure of 8th abdomen shown in fig. 18.

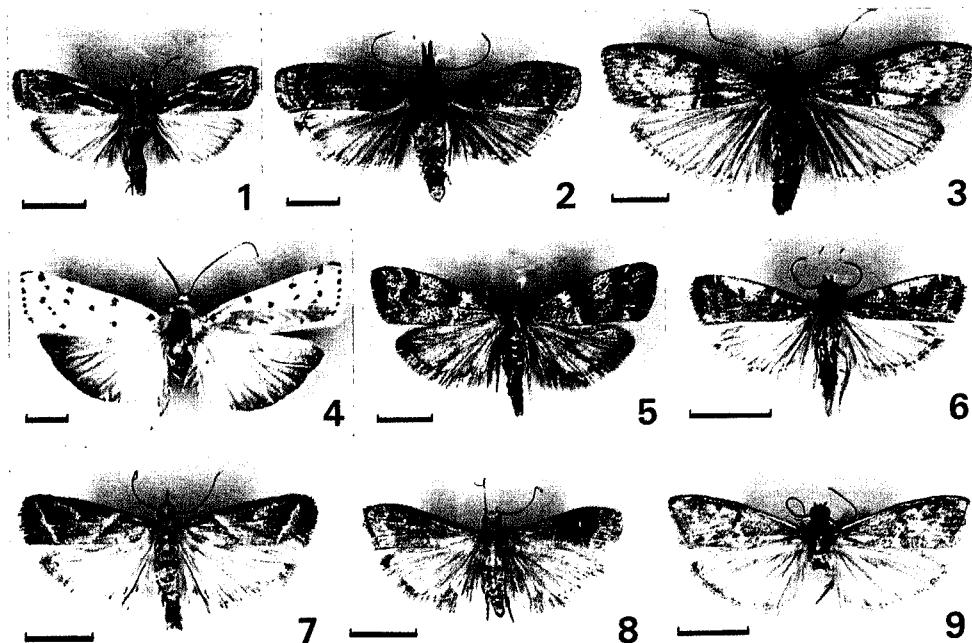
Female genitalia (Fig. 26). Apophysis posterioris short, about 0.7 times as long as apophysis anterioris. Ostium bursae wide, cup-shaped, anteriorly narrow, bifid at posterial edge. Ductus bursae broad, short, with neck. Ductus seminalis membranous, basally broad, originating from lobe of corpus bursae near junction of ductus bursae and corpus bursae. Corpus bursae ovate, with well sclerotized and thickened plate at posterior end; signa double, large, ovate, minutely scobinated.

Material examined. [GW] 1 ♂, Mt. Jeombong, 12. VIII. 1997 (Paek, Lee, Jang, Cho & Kim), UIB; 1 ♂, Mt. Dukga, 24. VII. 1997 (Bae, Paek & Ahn), UIB; 3 ♂, Mt. Chiak, 24. VI. 1998 (Bae, Paek, Lee & Ahn), UIB, gen. sl. no. UIB-1815; 2 ♂, Mt. Weolak, 9. VIII. 1997 (Y.S. Bae & N.H. Ahn), UIB, gen. sl. no. UIB-1637, UIB-1635; 1 ♂, Chuncheon, 13. VII. 1989 (K.T. Park), CIS, gen. sl. no. 2761; 1 ♀, Jeongseon, 30. VII. 1991 (K.T. Park), CIS, gen. sl. no. 2774. [GG] 3 ♂, Mt. Kwangduk, 20. VII. 1996 (Bae, Paek, Lee, Ahn & Jeon), UIB, 3 ♂, 19. VIII. 1997 (M.K. Paek & U.Y. Jang), UIB; 1 ♂, Mt. Soyo, 2. VI. 1996 (Y.S. Bae), UIB; 1 ♂, Mt. Myeongji, 23. V. 1991 (B.K. Byun), CIS. [JB] 4 ♂, Mt. Miruk, 4. V. 1997 (Lee, Ahn, Oh & Lee), UIB, gen. sl. no. UIB-1636, UIB-1638; 1 ♂, Mt. Naejang, 2. V. 1998 (Paek, Lee & Ahn), UIB. [JN] 1 ♂, 1 ♀, Mt. Paekun, 3. V. 1998 (Paek, Lee & Ahn), UIB.

Distribution. Korea (GW, GG, JB, JN), Japan (Honshu, Kyushu), and Sri Lanka.

Host plant. Unknown.

Remarks. Adults are collected from the early of May to the mid of August. The genus *Spatulipalpia* Ragonot (type species: *Spatulipalpia effosella* Ragonot, 1893) is known for the first time from Korea. The genus is morphologically similar to *Protoetiella* Inoue, 1959, but it can be distinguished by the



Figs 1-9. Phycitinae spp., adults: 1. *Spatulipalpia albistrialis* Hampson, ♂; 2. *Sandrabatis crassiella* Ragonot, ♀; 3. *Ceroprepes nigrolineatella* Shibuya, ♀; 4. *Myelois cibrella* (H bner), ♀; 5. *Assara terebrella* (Zincken), ♀; 6. *A. funeralis* (Ragonot), ♂; 7. *Nyctegretis acthinella katastropella* Roesler, ♂; 8. *Pseudocadra cuprotaeniella* (Christoph), ♀; 9. *Euzophera batangensis* Caradja, ♀. Scales: 5.0 mm.

hindwing with M_2 and M_3 closely approximated at base.

***Sandrabatis crassiella* Ragonot** 진수염알락명나방 (신청)
(Figs 2, 11, 19, 27)

Sandrabatis crassiella Ragonot, 1893, in Romanoff, Mém. Lépid. 7: xlvi 204 pl. 18, fig. 7; Inoue, 1954: 135; Inoue, 1959, 1: 237, pl. 166: 32; Inoue, 1982, 1: 391, 2: 250, pl. 47: 24, 25. TL: Sri Lanka, India.

Diagnosis. Wing expanse, 22–24mm. This species can be easily distinguished from the related species by the fuscous ground color and straight blackish marginal line of the forewing.

Male genitalia (Fig. 11). Uncus rounded, dorsally covered with short hairs. Gnathos unique, anchor-shaped. Juxta with lateral lobes. Valva apically broad, with rounded apex, and bearing a strong lobe at end of sacculus. Vinculum large, about as long as valva. Aedeagus stout and long, as long as valva, with numerous spines; median area rather narrow. Structure of 8th abdomen shown in fig. 19.

Female genitalia (Fig. 27). Ostium bursae wide, cup-shaped. Ductus bursae broad and short, strongly sclerotized; colliculum long, minutely dentate. Ductus seminalis strongly sclerotized, wirelike, originating

from lobe of corpus bursae near junction of ductus bursae and corpus bursae. Corpus bursae heavily sclerotized near posterior half, with a large finger-shaped projection, and with many long spines towards base in middle.

Material examined. [GW] 1♂, Mt. Jeombong, 11. VII. 1997 (Paek, Lee, Jang, Cho & Kim), UIB. [CN] 1♂, 1♀, Onyang, 27. VI. 1990 (H.Y. Choi & S.H. Oh), CIS, gen. sl. no. 2768(♂), 2769(♀); 1♂, 1♀, Mt. Gaya, 24. VIII. 1997 (B.W. Lee & N.H. Ahn), UIB, gen. sl. no. UIB-1632(♀). [JB] 1♀, Mt. Miruk, 23. VIII. 1997 (B.W. Lee & N. H. Ahn), UIB, gen. sl. no. UIB-1631. [JN] 9♂, 16♀, Mt. Moodeung, 29. VI. 1990 (S.H. Oh & H. Y. Choi), CIS, gen. sl. no. UIB-1793(♂).

Distribution. Korea (GW, CN, JB, JN), Japan (Honshu, Shikoku, Kyushu, Tsushima), and India.

Host plant. Unknown.

Remarks. This species seems to be a common species in Korea. Adults are collected from the late of June to the late of August. The genus *Sandrabatis* Ragonot (type species: *Sandrabatis crassielia* Ragonot, 1893) is known for the first time from Korea. The genus is morphologically similar to *Psorosa* Zeller, 1846, but it can be distinguished by the forewing with R_2 stalked with R_{3+4} .

***Ceroprepes nigrolineatella* Shibuya** 검은줄알락명나방 (신칭)

(Figs 3, 12, 20, 28)

Ceroprepes nigrolineatella Shibuya, 1927, Insecta Matsumura 2: 24; Inoue, 1954: 141; Inoue, 1982, 1: 402, 2: 253, pl. 49; Hirashima, 1989: 964. TL: Japan.

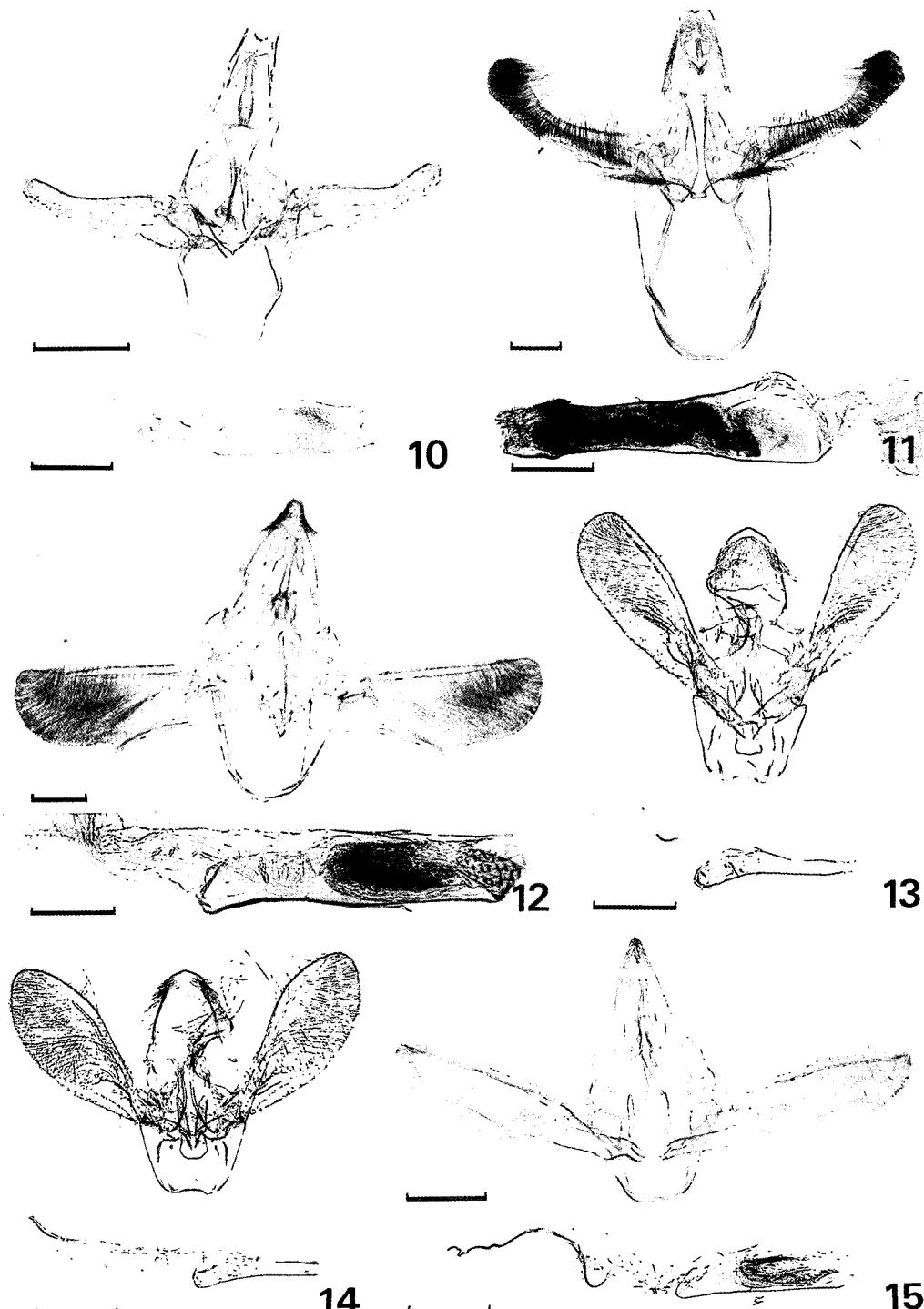
Ceroprepes jansei West, 1931, Novit. Zool. 36: 208.

Diagnosis. Wing expanse, 25–26 mm. This species is very similar to *C. ophthalmicella* (Christoph) in the superficial appearance, but can be separated from the latter by the brownish black antemedian line of the forewing. Head yellowish brown. Labial palpus upturned. Antenna of male typically unipectinate. Thorax fuscous brown. Ground color of forewing dirty white, scattered with pale brownish gray; central area between antemedian and submarginal line indistinctly pale gray except costal margin. Hindwing ochreous brown; female darker than that of male. The female genitalia are quite different each other.

Male genitalia (Fig. 12). Uncus shortly triangulated, covered with short hairs. Apical process of gnathos narrow, elongate. Juxta bearing two long, flattened lateral arms. Valva broad, with large clasper; costa straight; sacculus distinct, basally broad, with acutely lobe near apex. Vinculum moderate in size, about 0.6 times as long as valva. Aedeagus broad, as long as valva, armed with numerous stout dents at posterior end. Structure of 8th abdomen shown in fig. 20.

Female genitalia (Fig. 28). Apophyses rather short. Ostium bursae wide. Ductus bursae short, about same length of 7th abdominal sternite, constricted near middle, with three narrow, posteriorly well sclerotized, and with short and minutely dentate colliculum near anterior end. Ductus seminalis membranous, slender, originating from near posterior part of corpus bursae. Corpus bursae large, about twice as long as ductus bursae; signum small, minutely dentated, nipplelike.

Material examined. [GW] 1♂, Sogumgang, 6. VII. 1988 (H. Y. Choi), CIS, gen. sl. no. 2716; 1♂, Mt. Jeombong, 11. VII. 1997 (Y.S. Bae & N.H. Ahn), UIB; 1♂, 1♀, Mt. Daeduk, 11. VII. 1997 (Y.S.



Figs 10-15. Phycitinae spp., male genitalia: 10. *Spatulipalpia albistrialis* Hampson; 11. *Sandrabatis crassiella* Ragonot; 12. *Ceroprepes nigrolineatella* Shibuya; 13. *Assara terebrella* (Zincken); 14. *A. funerella* (Ragonot); 15. *Nyctegretis achtinella katastropella* Roesler. Scales: 0.5 mm.

Bae & N.H. Ahn), UIB, gen. sl. no. UIB-1646(♀); 1♂, Mt. Odae, 8. VII. 1998 (Bae, Ahn & Kim), UIB; 1♂, Mt. Gariwang, 8. VII. 1998 (Paek, Lee, Kim & Song), UIB. [GG] 4♂, Mt. Gwandeok, 9. VII. 1997 (M.K. Paek), UIB, gen. sl. no. UIB-1645; 1♀, Gwangleung, 14. VI. 1986 (K.T. Park & U. Park), CIS, gen. sl. no. 2701; 1♂, Mt. Jugeum, 5. VI. 1998 (Paek, Lee, Jang & Ahn), UIB. [JN] 1♂, Mt. Deogyu, 18. VII. 1998 (Bae, Paek & Lee), UIB; 1♂, Mt. Peakun, 19. VII. 1998 (Bae, Paek & Lee), UIB.

Distribution. Korea (GW, GG, JN) and Japan (Hokkaido, Honshu, Shikoku, Kyushu).

Host plant. Unknown.

Remarks. This species seems to be a common and wide spread species in Korea. Adults are collected from the early of June to the mid of July.

***Myelois cibrella* (Hübner) 점박이 알락명나방 (신칭)**

(Figs 4, 32)

Tinea cibrella Hübner, 1796, Samml. eur. Schmett. 8: pl. 10, fig. 67. TL: Europe.

Myelois cibrella: Inoue, 1982, 1: 394, 2: 251, pl. 47: 45; Hirashima, 1989: 966.

Diagnosis. Wing expanse, ♀ 34mm. This species can be easily distinguished from the other related species by the silvery white ground color of the forewing, with 18 distinct black dots shown in fig. 4. Labial palpus, antenna and frons silvery white. Hindwing; cilia white, suffused with brownish gray on about apical 1/3.

Female genitalia (Fig. 32). Apophyses long and rather strong; apophysis anterioris about same times as long as apophysis posterioris. Ostium bursae simple, large. Ductus bursae long and wide, hardly separable from corpus bursae, with large numerous minute dentated colliculum at right side of proximal half. Ductus seminalis slender, basally broad, originating from junction between ductus bursae and corpus bursae. Corpus bursae membranous, with a small, dentated signum.

Material examined. [GW] 1♀, Pyongchang, 31. VII. 1991 (K.T. Park), CIS, gen. sl. no. 1016.

Distribution. Korea (GW), Japan (Honshu, Kyushu), China, E. Siberia, and Europe.

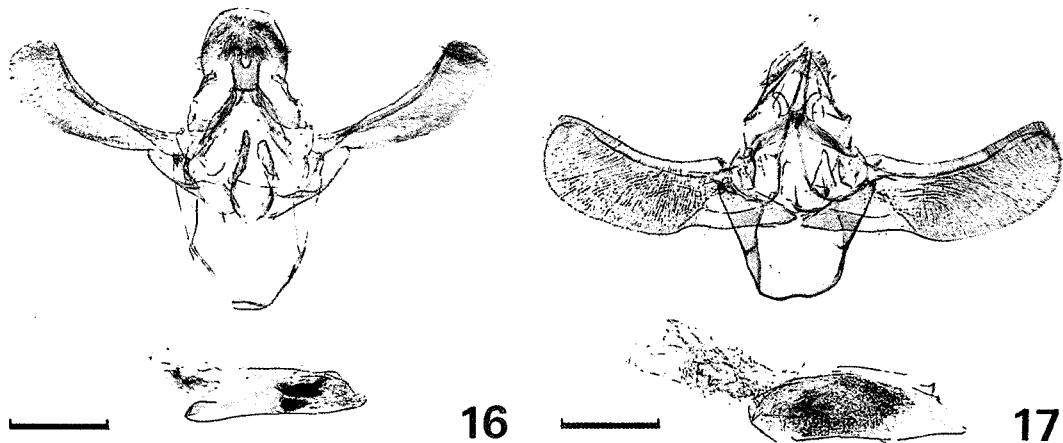
Host plants. Unknown in Korea; *Cnicus lanceolatus* Willd. and *Arctium lappa* L. (Compositae) in China (Wang, 1980); *Cirsium* sp. (Compositae) and *Carduus* sp. in Japan (Inoue, 1982).

Remarks. The genus *Myelois* Hübner (type species: *Tinea cibrella* Hübner, [1825]) is known for the first time from Korea. The genus can be separated from the other genus by the following points: Forewing with vein R₂ from cell, M₂ and M₃ stalked for 2/5 if their lenght from cell. Hindwing with veins CuA₁ and M₃ present, M₂ and M₃ stalked for about 1/2 of its length, discocellular vein curved.

***Assara terebrella* (Zincken) 흰줄무늬알락명나방 (신칭)**

(Figs 5, 13, 21, 33)

Phycitis terebrella Zincken, 1818, Germar's Mag. Ent. Halle 3: 162. TL: Europe.



Figs 16-17. Phycitinae spp., male genitalia: 16. *Pseudocadra cuprotaeniella* (Christoph); 17. *Euzophera batangensis* Caradja. Scales: 0.5 mm.

Myelois terebrella: Walker, 1863, List Lep. Ins., Br. Mus. 27: 34.

Hyphantidium terebrella: Ragonot, 1901: 75; Rebel, 1901: 23.

Seneca tenebrella: Inoue, 1954: 133.

Assara terebrella: Roesler, 1973: 145; Inoue, 1982, 1: 387, 2: 249; Hirashima, 1989: 963.

Diagnosis. Wing expanse, 18–19 mm. This species can be easily distinguished from the related species by the whitish central area, with two black discal dots on discocellular vein. Ground color of forewing blackish brown, with whitish central area; antemedian line dirty white, outwardly oblique; submarginal line narrow, dirty white, zigzagged. Cilia dark fuscous. Hindwing fuscous grayish brown; Cilia dark fuscous.

Male genitalia (Fig. 13). Uncus broad, rounded at apex, with dorsally short hairs. Apical process of gnathos elongate, hooked. Juxta with slender lateral arms. Valva broadened clavate, with broadly rounded apex; costa well sclerotized; sacculus weakly developed. Vinculum sclerotized, broad, short, about 0.4 times as long as valva. Aedeagus narrow, basally broad, 0.7 times as long as valva. Structure of 8th abdomen shown in fig. 21.

Female genitalia (Fig. 33). Apophysis anterioris long, about 1.7 times as long as apophysis posterioris. Ostium bursae simple cylindrical, covered with minute granule. Ductus bursae narrow, long, about twice as long as apophysis anterioris; colliculum absent. Ductus seminalis membranous, originating from posterior third of corpus bursae approximate to signum. Corpus bursae moderate in size; signum distinct, ovate with numerous trapezoidal dents on surface.

Material examined. [GW] 1♀, Mt. Odae, 26. VI. 1989 (K.T. Park), CIS, gen. sl. no. 2383, 1♀, 6. VIII. 1989 (K.T. Park), CIS, 1♂, 1♀, 8. VII. 1998 (Bae, Ahn & Kim), UIB.

Distribution. Korea (GW), Japan (Hokkaido), E. Siberia, and Europe.

Host plants. Unknown in Korea; *Picea abies* (L.) Karst., *Picea excelsa* Link. (Pinaceae), *Pinus montana* Duroi and *Pinus strobus* L. (Pinaceae) in Paraearctic Region (Roesler, 1973).

Remarks. Considering 15 species reported from Palaearctic Region (Roesler, 1973, 1993; Roesler & Luguet, 1987; Inoue, 1982; Yamanaka, 1994), and only a single species known from Korea, further species of the genus will be discovered in Korea. Adults are collected from the late of June to the early of August.

***Assara funerella* (Ragonot) 삼각무늬알락명나방 (신정)**

(Figs 6, 14, 22, 34)

Hyphantidium funerellum Ragonot, 1901, in Romanoff, Mém. Lépid. 8: 75; Leech, 1901: 406; Matsumura, 1905, Cat. Ins. Jap. (Lep.): 195; Shibuya, 1932, 36: 257. TL: Japan.

Heterographis exigurella Caradja, 1926, Dt. ent. Z. Iris 40: 169.

Homoeosoma albocostella Inoue, 1959, Tinea 5: 293; 1959: 237.

Ephestia funerellum: Inoue, 1954: 134.

Assara exigurella: Roesler, 1973: 150.

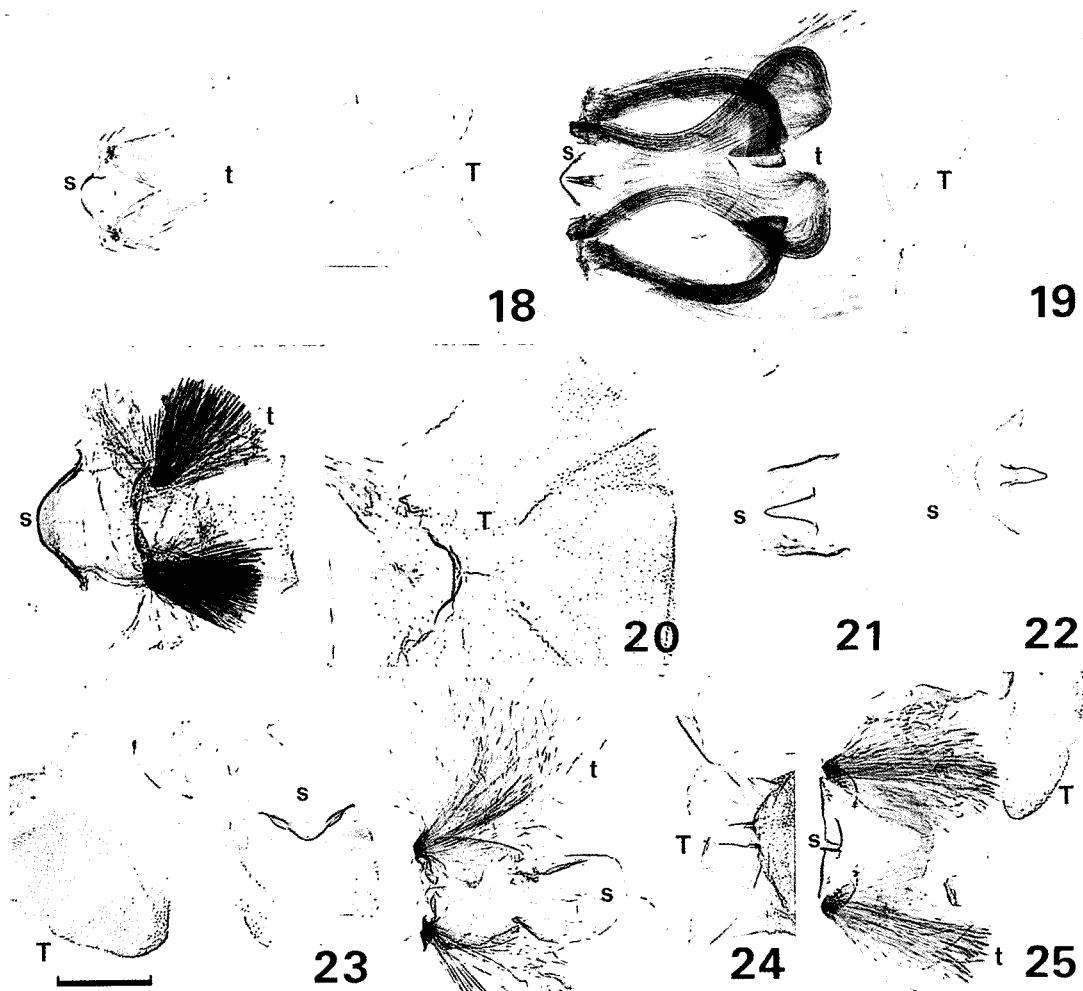
Assara funerella: Yamanaka, 1980: 71; Inoue, 1982, 1: 387, 2: 249, pl. 46: 62; Hirashima, 1989: 963.

Diagnosis. Wing expanse, ♂ 12–13 mm. ♀ 16–18 mm. This species is characterized by the following points: Frons of head pale grayish white. Labial palpus upturned, reaching to vertex; ventral surface of first segment and basal half of second segment white; apical half of second and third segment black; inner surface blackish gray. Forewing pale brown, broadly suffused ashy white with on central part of costal margin, lunulate; antemedian line costally broadened; submarginal line white, almost straight. Cilia fuscous. Hindwing brownish white, apically darker; Cilia grayish white, mixed with pale grayish scales.

Male genitalia (Fig. 14). Quite similar to that of preceding species *terebrella* (Zincken), but can be separated from the latter by the elongate ovate valva and short juxta. Structure of 8th abdomen shown in fig. 22.

Female genitalia (Fig. 34). Papillae analis slender. Apophyses very long; apophysis anterioris about twice as long as apophysis posterioris. Ostium bursae simple funnellike. Ductus bursae narrow, rather long, membranous. Ductus seminalis membranous, originating posterior third of corpus bursae. Corpus bursae sublobular, with large, scobinate signum.

Material examined. [GW] 1 ♀, Mt. Jeombong, 5. VIII. 1997 (Y.S. Bae & N.H. Ahn), UIB; 3 ♀, Mt. Gyebang, 7. VIII. 1997 (Y.S. Bae & N.H. Ahn), UIB; 1 ♀, Chuncheon, 29. VI. 1987 (K.T. Park), CIS, 1 ♂, 20. VII. 1987 (K.T. Park & U. Park), CIS, 2 ♀, 2. VII. 1989 (K.T. Park & B.K. Byun), CIS; 1 ♂, Yangyang, 4. VI. 1987 (K.T. Park), CIS; 1 ♂, Chunsung, 20. VII. 1987 (K.T. Park & U. Park), CIS, gen. sl. no. 2794; 1 ♀, Mt. Odae, 6. VIII. 1989 (K.T. Park), CIS; 1 ♂, Sogumgang, 8. VIII. 1988 (H.Y. Choi), CIS, gen. sl. no. 2360; 1 ♀, Mt. Seolak, 25. VIII. 1989 (K.T. Park), CIS, gen. sl. no. 2388; 2 ♂, Mt. Dukga, 24. VII. 1997 (Bae, Paek & Ahn), UIB; 2 ♂, Mt. Chiak, 12. VII. 1997 (Y.S. Bae & N.H. Ahn), UIB; 2 ♀, Mt. Weolak, 9. VIII. 1997 (Y.S. Bae & N.H. Ahn), UIB. [GG] 2 ♂, 2 ♀, Mt. Gwangdeok, 9.



Figs 18-25. Phycitinae spp., 8th abdominal tergites (T), sternites (s) and tufts (t): 18. *Spatulipalpia albistrialis* Hampson; 19. *Sandrabatis crassiella* Ragonot; 20. *Ceroprepes nigrolineatella* Shibuya; 21. *Assara terebrella* (Zincken); 22. *A. funerella* (Ragonot); 23. *Nyctegretis achtinella katastropella* Roesler; 24. *Pseudocadra cuprotaeniella* (Christoph); 25. *Euzophera batangensis* Caradja. Scale: 0.5 mm.

VII. 1997 (M.K. Paek), UIB; 1 ♂, Mt. Hwaya, 18. VII. 1997 (Bae, Paek, Lee, Oh & Ahn), UIB; 1 ♂, Yangpyeong-gun, Mt. Cheonggye, 25. VII. 1996 (Bae, Paek, Lee & Ahn), UIB; 1 ♀, Gwangleung, 3. VI. 1988 (H.Y. Choi), CIS, 1 ♀, 4. VIII. 1988 (H.Y. Choi), CIS, 1 ♀, 10. VII. 1990 (K.T. Park), CIS, gen. sl. no. 2709; 1 ♂, Mt. Suri, 15. VI. 1990 (S.H. Oh & H.Y. Choi), CIS; 1 ♀, Gwacheon-shi, Mt. Cheonggye, 23. VII. 1996 (Paek, Jeon & Lee), UIB, 1 ♀, 26. VII. 1997 (Jeon, Lee, Jang & Gu); 3 ♂, 2 ♀, Inchon-shi, Chelma, 14. VI. 1996 (Y.S. Bae), UIB; 3 ♀, Mt. Many, 20. VI. 1997 (M.K. Paek & B.W. Lee), UIB; 1 ♀, Hwaseong-gun, Daeseong Reser., 2. VII. 1997 (M.K. Paek), UIB; 1 ♂, Isl. Daebu, 28. VI. 1997 (M.K. Paek), UIB; 1 ♀, Isl. Deokjeok, 24. VI. 1997 (Y.S. Bae & N.H. Ahn), UIB. [CB] 1 ♀, Suanbo, 1. VII. 1990 (S.H. Oh), CIS; 2 ♂, 1 ♀, Mt. Mireuk, 14. VI. 1997 (Bae, Paek, Lee, Oh & Ahn),

UIB; 1 ♂, Mt. Ingyeong, 8. VI. 1997 (Bae, Paek, Lee, Oh & Ahn), UIB. [CN] 1 ♂, Mt. Gaya, 15. VI. 1997 (Bae, Paek, Lee, Oh & Ahn), UIB, 2 ♀, 24. VIII. 1997 (B.W. Lee & N.H. Ahn), UIB, gen. sl. no. 1610. [GN] 1 ♀, Changryeong-gun, Upo swamp, 28. VII. 1997 (M.K. Paek), UIB. [JN] 1 ♂, Mt. Jiri, 22. VII. 1985 (K.T. Park), CIS. [CJ] 1 ♂, 4 ♀, Seogwipo, 5. VII. 1986 (K.T. Park), CIS, gen. sl. no. 2734; 1 ♂, 3 ♀, Mt. Hanra, 12. VIII. 1997 (B.W. Lee & N.H. Ahn), UIB.

Distribution. Korea (GW, GG, CB, CN, GN, JN, CJ), Japan (Hokkaido, Honshu), and China.

Host plants. Unknown in Korea; *P. thunbergii* (Pinaceae) in Japan (Yoshiyas, 1983).

Remarks. Adults are collected from the early of June to the late of August in Korea. This species appears to be one of the common and widely distributed species in Korea. *A. exigua* Caradja and *A. albocostella* Inoue were synonymized with this species by Yamanaka (1980).

***Nyctegretis achtinella katastropella* Roesler 밝은세모알락명나방 (신정)**

(Figs 7, 15, 23, 29)

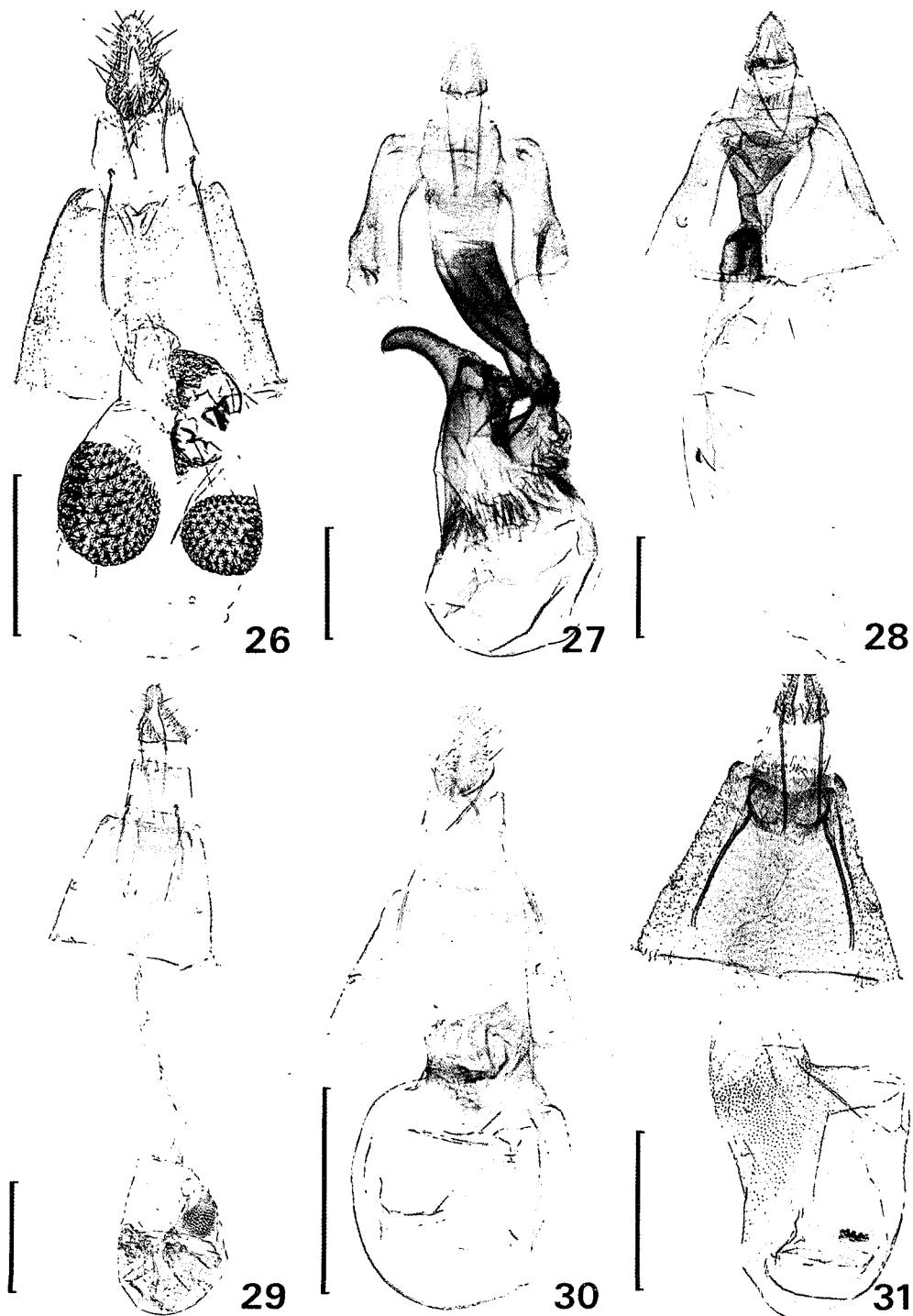
Nyctegretis achtinella katastropella Roesler, 1970, Reichenbachia 13(7): 47, fig. 7, 8; Roesler, 1973, 4: 290. TL: Mongolia.

Diagnosis. Wing expanse, 17–18mm. This species is very similar to *N. triangulella* Ragonot in the superficial appearance, but it can be distinguished from the latter by the distinct blackish discal patch, with spread toward the discal cell of the forewing. Ground color of forewing yellowish brown to blackish brown; antemedial line straight, oblique, outwardly white spread; submarginal line straight, vertically oblique, outwardly white spread. Hindwing pale grayish brown.

Male genitalia (Fig. 15). Uncus subtriangular, apically covered with stout hairs, with rather pointed apex. Central process of gnathos elongate; transtilla narrow, band like. Juxta U-shaped. Valva bluntly pointed at apex, with weak clasper; costa nearly straight and well sclerotized; sacculus broad, short, and well sclerotized. Vinculum broad, well sclerotized. Aedeagus broad and short, about 0.7 times as long as valva, with a weakly sclerotized, flattened cornutus. Structure of 8th abdomen shown in fig. 23.

Female genitalia (Fig. 29). Ostium bursae large, simple rounded, long cylindrical. Ductus bursae long, about 2.5 times as long as apophysis anterioris, membranous. Ductus seminalis membranous, originating from near middle of corpus bursae approximate to signum. Corpus bursae rather small, with densely dentated nipplelike signum.

Material examined. [GW] 1 ♀, Mt. Gyebang, 7. VIII. 1997 (Y.S. Bae & N.H. Ahn), UIB; 1 ♀, Chuncheon, 3. VI. 1983 (K.T. Park), CIS, 1 ♂, 21. VI. 1985 (K.T. Park), CIS, 5 ♂, 2 ♀, 11–13. VI. 1989 (K.T. Park & B.K. Byun), CIS; 1 ♀, Mt. Samag, 19. VII. 1989 (K.T. Park), CIS, 4 ♂, 2 ♀, 13. VI. 1990 (K.T. Park), CIS, gen. sl. no. 2765(♂); 1 ♂, 1 ♀, Hongcheon, 5. IX. 1986 (K.T. Park), CIS, gen. sl. no. 2721(♀), 2 ♂, 10. V. 1988 (H.Y. Choi), CIS, 1 ♂, 10. VI. 1988 (H.Y. Choi), CIS, gen. sl. no. UIB-1792; 1 ♂, Mt. Weolak, 7. VI. 1997 (Bae, Paek, Lee, Oh & Ahn), UIB. [GG] 1 ♂, Mt. Suri, 15. VI. 1990 (S.H. Oh & H.Y. Choi), CIS. [CB] 1 ♂, Mt. Ingyeong, 8. VI. 1997 (Bae, Paek, Lee, Oh & Ahn), UIB, gen. sl. no. UIB-1751.



Figs 26-31. Phycitinae spp., female genitalia: 26. *Spatulipalpia albistrialis* Hampson; 27. *Sandrabatis crassiella* Ragonot; 28. *Ceroprepes nigrolineatella* Shibuya; 29. *Nyctegretis actinella katastropella* Roesler; 30. *Pseudocadra cuprotaeniella* (Christoph); 31. *Euzophera batangensis* Caradja. Scales: 1.0 mm.

Distribution. Korea (GW, GG, CB) and Mongolia.

Host plant. Unknown.

Remarks. This species seems to be one of the common and widely distributed species in Korea. Adults are collected from the early of June to the early of September.

***Pseudocadra cuprotaeniella* (Christoph)** 겹은자주빛알락명나방 (신칭)
(Figs 8, 16, 24, 30)

Euzophera cuprotaeniella Christoph, 1881, Bull. soc. imp. Net. Moscou 56(1): 58; Ragonot, 1901: 67, pl. 32: 10; Rebel, 1901: 24. TL: Europe.

Homoeosoma micronella Inoue, 1959, Tinea 5: 293, fig. 1.

Pseudocadra micronella: Roesler, 1973: 257; Inoue, 1982, 1: 388, 2: 249, pl. 46: 70.

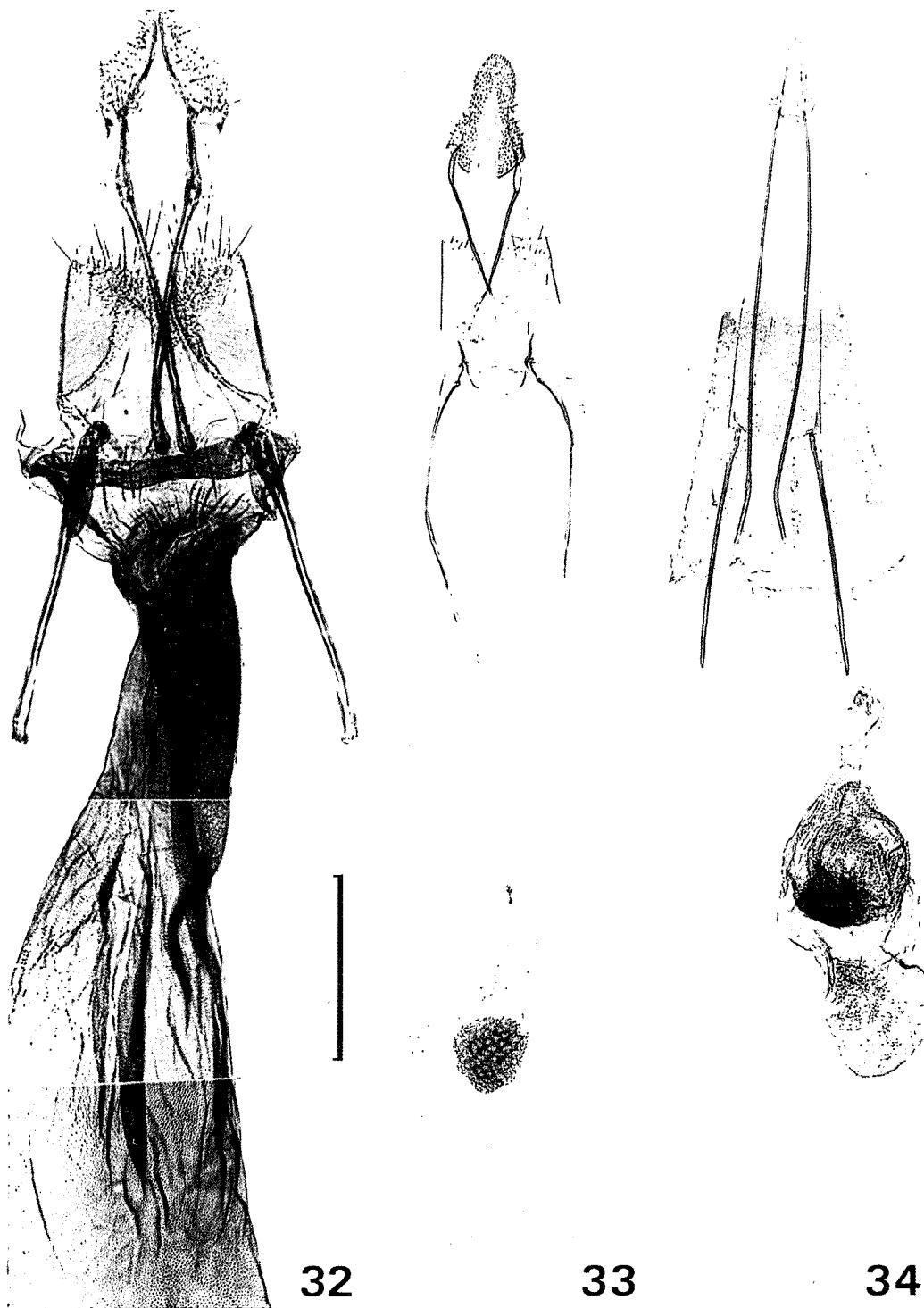
Pseudocadra cuprotaeniella: Inoue, 1988: 89; Hirashima, 1989: 967.

Diagnosis. Wing expanse, 13–15mm. The species has a characteristically by the fuscous reddish brown ground color and the small wing size (13–15mm) of the forewings.

Male genitalia (Fig. 16). Uncus semicircular, dorsal surface covered with short hairs. Gnathos shortly folked. Juxta U-shaped with lateral lobes. Valva basally narrow, with rounded terminal margin; costa smooth and well sclerotized. Vinculum wide and long, with rounded saccus. Aedeagus rather broad and short, as long as valva; cornuti three sets of short spines, composed one bundle long and other two short. Structure of 8th abdomen shown in fig. 24.

Female genitalia (Fig. 30). Apophyses short; apophysis posterioris 0.7 times as long as anterioris. Ostium bursae simple, wide cup-shaped. Ductus bursae short, about 1.8 times as long as apophysis anterioris, membranous. Ductus seminalis membranous, originating from lobe of corpus bursae near junction of ductus bursae and corpus bursae. Corpus bursae large; signum band-like, covered with modified scale.

Material examined. [GW] 1♂, Mt. Gyebang, 7. VIII. 1997 (Y.S. Bae & N.H. Ahn), UIB; 1♂, Chuncheon, 12. VIII. 1988 (H.Y. Choi), CIS, 2♀, 9. IX. 1988 (K.T. Park), CIS, 1♀, 7. VI. 1990 (K.T. Park), CIS; 1♀, Hoengsung, 6. VII. 1990 (S.H. Oh & H.Y. Choi), CIS; 2♀, Yangyang, 4. VI. 1987 (K.T. Park), CIS; 4♂, 2♀, Mt. Chiak, 12. VII. 1997 (Y.S. Bae & N.H. Ahn), UIB, gen. sl. no. UIB-1758(♂). [GG] 1♂, Mt. Soyo, 7. IX. 1996 (M.J. Lee), UIB; 1♂, Gwangleung, 9. VI. 1977 (J.S. Lee), CIS, 1♀, 27. VI. 1986 (K.T. Park & U. Park), CIS, 1♀, 14. V. 1986 (K.T. Park), CIS, gen. sl. no. 2373, 1♂, 2♀, 4. VIII. 1988 (H.Y. Choi), CIS, gen. sl. no. 2727(♂), 1♀, 10. VII. 1990 (K.T. Park), CIS, gen. sl. no. 2728; 3♀, Mt. Jugeum, 5. VI. 1998 (Paek, Lee, Ahn & Jang), UIB; 1♀, Gwacheong-shi, Mt. Cheongye, 19. VIII. 1976 (K.T. Park), CIS; 1♀, Inchon-shi, Chelma, 14. VI. 1996 (Y.S. Bae), UIB, gen. sl. no. UIB-1757; 1♀, Mt. Many, 20. VI. 1997 (M.K. Paek & B.W. Lee), UIB, 1♂, 26. VII. 1997 (B.W. Lee & N.H. Ahn), UIB; 1♂, 1♀, Isl. Daebu, 28. VI. 1997 (M.K. Paek), UIB, 1♂, 24. VII. 1997 (M.K. Paek), UIB; 1♂, Isl. Yongyu, 28. VII. 1997 (M.K. Paek & N.H. Ahn), UIB. [CB] 1♀, Mt. Ingryeong, 23. VIII. 1997 (Y.S. Bae), UIB; 1♂, Mt. Gaya, 15. VI. 1997 (Bae, Paek, Lee & Ahn), UIB.



Figs 32-34. Phycitinae spp., female genitalia: 32. *Myelois cibrella* (Hübner); 33. *Assara terebrella* (Zincken); 34. *A. funerella* (Ragonot). Scale: 1.0 mm.

[CN] 2 ♀, Mt. Gyelyong, 14. V. 1998 (Bae, Paek, Lee & Ahn), UIB. [JB] 2 ♂, 1 ♀, Mt. Mireuk, 23. VIII. 1997 (B.W. Lee & N.H. Ahn), UIB. [CJ] 2 ♀, Mt. Hanla, 5. VII. 1986 (M.K. Ko), CIS, 1 ♂, 12. VIII. 1997 (B.W. Lee & N.H. Ahn), UIB.

Distribution. Korea (GW, GG, CB, CN, JB, CJ), Japan (Hokkaido, Honshu, Shikoku, Kyushu), and Europe.

Host plant. Unknown.

Remarks. Inoue (1988) combined this species to the genus *Pseudocadra* Roesler, 1965. The species is very common, and it appears from the mid of May to the early of September in Korea. The genus *Pseudocadra* (type species: *Pseudocadra obscurella* Roesler, 1965) is known for the first time from Korea. This genus is characterized by the following points: R₂ from cell, veins M₂ and M₃ stalked for about 1/6 distance from cell.

***Euzophera batangensis* Caradja 밤알락명나방 (신칭)**

(Figs 9, 17, 25, 31)

Euzophera batangensis Caradja, 1939, Dt. ent. Z. Iris 50: 20; Roesler, 1973: 186; Inoue, 1982, 1: 388, 2: 249, pl. 46: 65, 66; Hirashima, 1989: 965. TL: China.

Diagnosis. Wing expanse, 18–20 mm. This species is very similar to *E. bigella* (Zeller) and *Glytoteles leucocrinella* Zeller, but, it can be characterized that the antemedian line of the forewing has a excessively curved inward. Labial palpus upturned, reaching to top of vertex; second segment rough scaled; third segment short, 0.5 times as long as second segment, acuminate. Ground color of forewing dirty fuscous brown; termen almost straight; postmedial line indistinctly zigzagged; submarginal area mixed with grayish scales. Hindwing ochreous brown, broadly dotted with grayish brown scales; Cilia concolorous with wing, mixed with gray scales.

Male genitalia (Fig. 17). Uncus broadly rounded, dorsal surface covered with hairs. Apical process of gnathos elongate, pointed. Transtilla with V-shaped arms. Juxta U-shaped. Valva broad, with short rounded projection at apex of costa; costa well sclerotized. Vinculum wide and well sclerotized, with broad saccus. Aedeagus broad short, with two stout dents on its dorsal apex; cornuti a bundle of long spines. Structure of 8th abdomen shown in fig. 25.

Female genitalia (Fig. 31). Papilla analis slender. Apophysis anterioris almost of same length as posterioris one. Ostium wide cup-shaped, laterally enlarged. Ductus bursae short, anteriorly broad. Ductus seminalis membranous, originating from posterior third of corpus bursae. Corpus bursae globular; sigum small, minutely scobinated.

Material examined. [GW] 2 ♂, Chuncheon, 16. V. 1989 (K.T. Park), CIS, gen. sl. no. 2389; 1 ♀, 28. V. 1990 (K.T. Park), CIS, 1 ♂, 16. V. 1990 (K.T. Park), CIS; 1 ♀, Hongcheon, 20. V. 1988 (K.T. Park), CIS, gen. sl. no. 2390; 1 ♂, Yangyang, 30. V. 1987 (K.T. Park), CIS. [GG] 2 ♂, Suweon, 19. II. 1982 (S.W. Lee), CIS, gen. sl. no. 2788; 1 ♀, Isl. Seonkam, 4. VI. 1990 (S.H. Oh & H.Y. Choi), CIS. [CB] 1 ♀, Cheongju, 26. VIII. 1983 (Y.I. Lee), CIS; 1 ♂, Mt. Mireuk, 4. V. 1997 (Lee, Ahn & Oh), UIB,

gen. sl. no. UIB-1695. [CN] 1 ♀, Mt. Gaelyong, 14. V. 1998 (Bae, Paek, Lee & Ahn), UIB, gen. sl. no. UIB-1799. [JN] 1 ♂, Mt. Baekun, 3. V. 1998 (Paek, Lee & Ahn), UIB, gen. sl. no. UIB-1818. [CJ] 2 ♂, Jeju N. Univ., 17-18. V. 1991 (B.K. Byun & Y.D. Kwon), CIS.

Distribution. Korea (GW, GG, CB, CN, JN, CJ), Japan (Hokkaido, Shikoku, Kyushu), and China.

Host plants. Unknown in Korea; A nut of *Castanea crenata* S. et. Z. (Fagaceae) in Japan (Inoue, 1982).

Remarks. This species seems to be a common species in Korea. Adults are collected from the early of May to the late of August.

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**韓國產 알락명나방族 (나비目, 명나방科, 알락명나방亞科)의
9未記錄種에 관한 研究 (I)**

崔 夏 鎔 · 白 文 基¹⁾ · 裴 良 變¹⁾

강원대학교 농업생명과학대학
1)인천대학교 자연과학대학 생물학과

알락명나방族의 굽은수염알락명나방, *Spatulipalpia albistrialis* Hampson; 긴수염알락명나방, *Sandrabatis crassiella* Ragonot; 검은줄알락명나방, *Ceroprepes nigrolineatella* Shibuya; 점박이알락명나방, *Myelois cibrella* (Hübner); 흰줄무늬알락명나방, *Assara terebrella* (Zincken); 삼각무늬알락명나방, *Assara funerella* (Ragonot); 밝은세모알락명나방, *Nyctegretis achtinella katastropella* Roesler; 검은자주빛알락명나방, *Pseudocadra cuprotaeniella* (Christoph); 뱀알락명나방 *Euzophera batangensis* Caradja 등 9種을 韓國未記錄種으로 報告하며, 이들에 대한 成蟲, 生殖器의 그림 및 寄主植物의 기록을 整理하였다.

검색어 : 나비목, 명나방과, 알락명나방아과, 알락명나방족, 한국미기록

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